

activating an hyperlink but rather text received from activating an hyperlink; B) Col. 6, lines 65-67 in, *inter alia*, Para. 18, which reference does not specify any text display at all; C) Col. 6, lines 17-28, which reference in Paras. 16 and 24 regarding respectively claims 10 and 18 to teaching displaying text as hyperlink text or hypertext simply does not teach text having hyperlink capability as defined in the Application at page 8; D) Col. 5, lines 5-9 in Paras. 18, 28 and 34 referring to “interacting” as activating presumes a text display for interactive user-activation, which reference is mistaken for the same reason that said reference to Screen 48 and Col. 5 lines 9-11 in Paras. 11, 18, 27, 28 and 34 is mistaken, both references do not teach displaying text for user interacting, user-activating an hyperlink, but rather text received from activating an hyperlink and E) Col. 6, lines 20-28 in Para. 24, referencing activating an hyperlink responsive to displayed text, as discussed below with reference to the “history-stack mode” of operation, takes place after an associated program material has been played and thus does not enable user-activated hyperlink activation during the playing of associated program material as the system, method and apparatus claimed in the Application, as amended herein, does and 2) Bandera, et al, Pat. No. 6,332,127, Col. 9, lines 10-13 in Para. 34 regarding claim 19, which reference is rendered moot with the cancellation of said claim 19 and the cited reference language for displaying prompt data “until the expiration date and/or time” is not recited in any of the new claims 21-40.

Displaying text or other visual display data while program material is playing to enable user-activation of an hyperlink to program-related content located at a predetermined hyperlink address as an alternative to automatic hyperlink activation during the playing of associated program material differentiates the method and apparatus claimed in the Application from that cited in Palmer, et al, Pat. No.

5,905,865. Simply stated, Palmer, et al, Pat. No. 5,905,865 teaches a method and apparatus for one means of activating a program-related hyperlink to supplemental content while the associated program material is playing, automatic activating in the “auto-pilot” mode of operation, and user-activation pursuant to text prompt only after said associated program material has played in the “history-stack mode” of operation. In contrast, the system, method and apparatus claimed in the Application, as amended herein, offers built-in flexibility for either user- or automatic activating a program-related hyperlink to supplemental content while associated program material is playing.

In Palmer, et al, Pat. No. 5,905,865, text is displayed for an “history-stack mode” of the invention taught therein. In contrast to the “auto-pilot” mode taught in said invention wherein an hyperlink to an URL is automatically connected when the audio/video signal and URL are received, user-activation of the hyperlink in the “history-stack mode” is taught in Palmer, et al, Pat. No. 5,905,865 to take place only after signals representative of related program material have been received and the associated program material played - when a number of program-related URLs associated with respective program material are “stacked” in storage for text scrolling for user-activation of an URL hyperlink, thereby limiting the utility of text displaying prompts for user-activation of hyperlinks to said “history-stack”/post-program playtime mode of operation.

Thus, the displaying of text to prompt user-activation of a program-related hyperlink taught in Palmer, et al, Pat. No. 5,905,865 teaches a different utility and indeed “teaches away” from the utility of displaying text in the system, method and apparatus claimed in the Application, as amended herein. Prior art that teaches away from a claimed invention is a significant factor to be considered in

determining obviousness. MPEP 2145(j)(4). Further, a prior art reference must be considered in its entirety including portions that would lead, or teach, away from the claimed invention. MPEP 2141.02 citing W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 US 851 (1984).

By only describing the display of text for user-activating of program-related URL hyperlinks in the context of this “history-stack mode”, Palmer, et al, Pat. No. 5,905,865 teaches only one means of activating an URL hyperlink while associated program material is playing, automatic activating in the “auto-pilot” mode, thereby failing to offer built-in flexibility for an alternative means of hyperlink activating while associated program material is playing, as the system, method and apparatus claimed in the Application, as amended herein, offers. Finally, the post program-play text display/user-hyperlink activation mode of operation taught in Palmer, et al, Pat. No. 5,905,865 is inherently in conflict with text display/user-hyperlink activation during program playtime system, method and apparatus claimed in the Application, as amended herein.

Please amend the above-captioned Application as specified **IN THE ABSTRACT OF THE DISCLOSURE, IN THE DESCRIPTION** and **IN THE CLAIMS** herein. Text to be deleted is indicated by the strike-through, text to be inserted is underlined and a set of new claims is stated.

ABSTRACT OF THE DISCLOSURE

A system for generating an URL hyperlink address string including an URL hyperlink address to a web page location having at least one coupon content related to a video or audio or video program material and text identifying the at least one coupon related to the program an hyperlink activation attribute for user-activating or automatic activation and activating an URL hyperlink to the web page location having the at least one coupon related to the program comprises a data entering device for entering the URL hyperlink address to the web page location having the at least one coupon related to the program, a generator for generating the URL hyperlink address string including the URL to the web page having the at least one coupon related to the program and the text identifying the at least one coupon related to the program, a program signal transmitter for transmitting program signals and the URL hyperlink address string to a program signal receiver, the program signal receiver for receiving the program signals and URL hyperlink address string, a display device for displaying the text identifying the at least one coupon related to the program visually prompting user-activated hyperlink activation responsive to the user-activating attribute, an activator for user-activated or, responsive to the automatic activation attribute, automatic activating the URL hyperlink during the playing of associated program material to the web page having the at least one coupon related to the program and, optionally, a printer for printing the at least one coupon related to the program from the web page an hyperlink device for establishing an hyperlink to the content.

Television Audio/Video Program-Related ~~Coupon~~ Content Hyperlink System**FIELD OF THE INVENTION**

The invention relates to the field of ~~distribution of~~ accessing remotely located content coupons associated with ~~a video or audio or video~~ program material. In particular, the invention relates to the field of ~~using the Internet to distribute~~ activating hyperlinks to remotely located content coupons associated with ~~a video or audio or video~~ program material.

BACKGROUND OF THE INVENTION

Remotely located content associated with audio or video program material may be of a non-commercial or commercial nature. Such content associated with commercial program material such as an advertisement may be a web coupon for advertised merchandise.

Vendors advertising in newspapers often provide coupons on merchandise for sale as enticements to draw members of the public into retail outlets. Said vendors, advertising or otherwise marketing merchandise in ~~video or audio or video~~ programs program material, may electronically distribute coupons via the program signals representative of such program material in television or radio advertisements.

Several prior art systems teach distributing coupons via interactive television. See, for example, Nemirofsky, Pat. No. 5,907,350, Jones, et al, Pat. No. 5,978,013, Walkingshaw, et al, Pat. No. 5,488,423 and Mankovitz, et al, Pat No. 5,523,794, which are incorporated herein by reference. Said prior art systems, however, fail to provide efficient means for said vendors to enter and/or transmit program-related coupon hyperlink activation information. By transmitting the entire

coupon itself via the television signal rather than, for example, just the URL to a web page to access the coupon, said prior art systems preclude hyperlink usage and thereby necessitate higher bandwidth or television transmission data capacity to transmit and thereby incur greater cost.

Further, said prior art systems do not combine vendor coupon hyperlink activation information entry and interactive television with the Internet to ~~assist in entering and distributing~~ facilitate viewer web coupon information access. As demonstrated herein, web technology can facilitate ~~such~~ program-related content coupon information hyperlink access entry and distribution. Thus, the problem with the prior art is twofold: excessive television data capacity and failure to employ the Internet to enhance vendor entry and distribution of program-related ~~coupon content~~ hyperlink information.

SUMMARY AND OBJECTS OF THE INVENTION

The instant invention solves said twofold problem in prior art systems first by transmitting via the ~~video or audio~~ or video program signal the hyperlink address such as URL to a web page having program-related content a coupon rather than the entire content coupon itself. Second, the instant invention brings the vast resources of the World Wide Web to facilitate vendor entry of program-related ~~coupon content~~ hyperlink address and activation information ~~and integrates program-related URL receiving with Internet access to hyperlink to coupon web page.~~ The term "coupon" is defined herein expansively including as in Engel, et al, Pat. No. 5,907,830, which is incorporated herein by reference, to include any paper or electronic certificate used to obtain anything of interest to a potential consumer such as special pricing, a discount, money, a ticket, samples or additional product, premiums, rebates or any other thing of value or interest.

One object of the invention is to transmit a ~~coupon~~ program-related content hyperlink web page URL address rather than the ~~coupon~~ content itself with a program signal.

Another object of the invention is to use the Internet to enhance ~~coupon~~ program-related content hyperlink information entry and distribution in ~~interactive television/radio~~ audio/video systems having remotely located program-related content.

A related object of the invention is to deploy a website for ~~vendor~~ advertiser/programmer entry of program-related ~~coupon~~ content hyperlink information and generating a ~~coupon~~ program-related hyperlink address URL string incorporating such information.

Yet another object of the invention is to connect ~~television viewers and radio~~ audio/video program listeners/viewers ~~with to a web page to access a~~ program-related ~~coupon~~ content located at an hyperlink address through user-activated or automatic hyperlink activation during the playing of associated program material.

Additional objects will be apparent from the following detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

The features and advantages of the present invention can be understood by reference to the detailed description of the preferred embodiments set forth below taken with the drawings, in which:

FIG. 1 is the system of the present invention.

FIG. 2 is an URL string that may be generated in the present invention.

DETAILED DESCRIPTION OF THE INVENTION

1. WEBSITE

Referring to the Drawing FIG. 2 1, TELEVISION FACILITY COMPUTER 12

may access WEBSITE 1 via PUBLIC/PRIVATE LINK 4, which may be the public switched telephone network, an integrated digital network or similar wire or wireless facility, to encode an advertisement with an hyperlink address string such as an URL string including an hyperlink address such as an URL to a web page having advertisement-related content such as at least one coupon related to said advertisement and ~~text identifying said at least one coupon~~ an hyperlink activation attribute for user-activated or automatic hyperlink activation. While the Drawing and system description herein are substantially specific to television facilities, it is understood that such specification is for illustrative purposes only and the Drawing and system description apply equally to broadcast, cable, satellite and Internet television and radio facilities and any ~~video or audio~~ or video recording medium.

Initially upon accessing WEBSITE 1 TELEVISION FACILITY may enter as date/time attribute 7 the end date/time for said advertisement to indicate when said URL will no longer be valid. In addition to encouraging ~~viewers/listeners~~ listeners/viewers to return to ~~video/audio~~ audio/video programming after an advertisement-related coupon hyperlink, setting date/time attribute 7 to the advertisement end date/time effectively limits one coupon per ~~viewer/listener~~ listener/viewer due to practical time limitations after printing a first coupon off WEB PAGE 35.

Next via WEBSITE 1 data entering means TELEVISION FACILITY may search DATABASE 2 of brand names and associated URLs to coupon web pages (each located as INDIVIDUAL WEB PAGE 3 at WEBSITE 1 or at the brand name website) to select a brand name scheduled to be advertised in said advertisement. Said brand names and associated URLs may be listed in

DATABASE 2 by product/service category and subcategory, key word/phrase and alphabetically. When a brand name is selected, the associated URL 6 to the web page having at least one brand name coupon may be automatically entered in said URL string and, for said user-activated hyperlink activation, the text "[Brand Name] Coupon", using the selected brand name, may be automatically generated in said URL string as said text 9 identifying said at least one coupon related to said advertisement. TELEVISION FACILITY may alternatively directly enter via ~~said data-entering means~~ COMPUTER 12 a brand name of interest and/or an associated URL 6 to a web page having at least one brand name coupon and, for said user-activated hyperlink activation, said text 9 identifying said at least one coupon related to said advertisement without selecting said brand name from DATABASE 2.

Said URL string may be generated for VBI, Line 21 ("Transport Type A") and resource data and trigger ("Transport Type B"), transmission using the EIA-746A standard as specified in ~~w w w.atvef.com/library/spec1_1a.html~~ at the ATVEF web page (atvef.com/library/spec1_1a.html), which is incorporated herein by reference. Said EIA-746A standard provides both television operators and receiver manufacturers a common means for delivering URLs associated with a commercial or other program, using the same television transmit channel used for closed captioning, thereby making said URLs available virtually everywhere television programming is received and enabling the use of closed captioning tools to encode and broadcast the URLs. The system disclosed herein supports both Transport Type A and Transport Type B, as well as other equivalent, triggers and synchronous multimedia integration language coding.

Via generating means WEBSITE 1 may generate 5 an URL string including

said selected URL, <www.text-2.com/coupon.asp?Brand Name>6, the entered date/time attribute, [e:yyyymmddThhmmss] 7 to indicate the ending date (on the left side of "T") and time (on the right side of "T") that the URL associated with said advertisement is to be valid - for example, the advertisement end date/time, and, for user-activated hyperlink activation, [n:Brand Name Coupon] 9 to display as text identifying said at least one coupon to prompt a ~~viewer or~~ listener or viewer to activate a program-related URL 6 hyperlink to coupon WEB PAGE 35 or, for automatic hyperlink activation, [auto:true] (NOT SHOWN) for WebTV™ Receiver to automatically load an interactive television link and, optionally, [time:yyyymmddThhmmss] (NOTSHOWN), an hyperlink start date/time attribute detected by WebTV™ Receiver. Optionally, said URL string may further comprise [t:a] 8 indicating the program type is an advertisement, [v: 1] 10 indicating the URL content is ATVEF compliant and a checksum 11 for error detection/correction. Additional attributes that may be coded in said URL string include [s:string] (NOT SHOWN), a script attribute, ~~[auto:true] (NOT SHOWN)~~ for ~~WebTV™ Receiver to automatically load an interactive television link,~~ and [showPIP:true] (NOT SHOWN) so a picture-in-picture video appears in a target web page on WebTV™ Receiver and ~~[time:yyyymmddThhmmss] (NOT SHOWN), an hyperlink start date/time attribute detected by WebTV™ Receiver.~~

Said URL string comprises an hyperlink address string associated with predetermined program material related to predetermined content 35 located at a predetermined hyperlink address for activating an hyperlink to said predetermined hyperlink address during the playing of said predetermined program material wherein said activating is user-activated or automatic and is generated by:

entering via data entering means to database means:

said predetermined hyperlink address and

predetermined hyperlink activation data for said user-activated or
automatic activating said hyperlink to said predetermined hyperlink
address including:

predetermined user-activation data for visually displaying
predetermined data to prompt said user-activating said hyperlink
to said predetermined hyperlink address or

predetermined automatic activation data for automatically
activating said hyperlink to said predetermined hyperlink address
and

generating via generating means operably coupled to said database
means said hyperlink address string associated with said predetermined program
material including:

an address attribute specifying said predetermined hyperlink
address 6 and

at least one respective attribute for said user-activated or
automatic activating said hyperlink to said predetermined hyperlink
address including:

an user-activating attribute 9 for visually displaying said
predetermined data to prompt said user-activating said hyperlink
to said predetermined hyperlink address or

an automatic activating attribute (NOT SHOWN) for said
automatic activating said hyperlink to said predetermined
hyperlink address.

In one preferred embodiment disclosed herein said data entering means and generating means may comprise web site means, WEBSITE 1. Alternatively, said data entering means and generating means may comprise computer means i.e. COMPUTER 12.

WEBSITE 1 may then output said URL string to either AUDIO FREQUENCY ENCODING DEVICE 16 to encode said URL string for transmission via program audio channel data transmission means or download said URL string to program signal transmitting means. AUDIO FREQUENCY ENCODING DEVICE 16 may inaudibly embed said URL string in the program audio itself. Audio frequency encoded data signals may then be fed from AUDIO FREQUENCY ENCODING DEVICE 16 to RECORDER 17 and onto STORAGE MEDIUM 18, or alternatively, sent through AUDIO TRANSMISSION LINK 19 (such as a network program distribution system) to MIXER 15 located at TELEVISION FACILITY to be mixed in with program audio signals. STORAGE MEDIUM 18 may be sent to TELEVISION FACILITY for later playback via PLAYBACK DEVICE 20.

Said URL string may be downloaded via PUBLIC/PRIVATE LINK 4 to TELEVISION FACILITY to be processed and transmitted via TELEVISION DATA TRANSMISSION LINK 21 at appropriate times in conjunction with transmission of associated program signals. Downloaded via PUBLIC/PRIVATE LINK 4, COMPUTER 12 may then output said URL string to DATA ENCODING DEVICE 13 to encode said URL string for transmission via conventional program data channel means such as VBI, MPEG, subcarrier, etc. In the alternative, COMPUTER 12. may output said URL string to DATA ENCODING DEVICE 14 to encode said URL string for transmission via program

audio channel means (i.e. embedding in program audio signals via MIXER 15). In one preferred embodiment herein said URL string for television programs may be encoded for transmission via VBI, Line 21 pursuant to said EIA-746A standard.

~~Website including~~ HTML code demonstrating one embodiment of said system ~~website means~~ is provided below in Appendix, which is incorporated by reference. Specifically, Appendix demonstrates, respectively, WEBSITE 1 data entering means searching by product/service category and subcategory, key word or phrase and alphabetically and selecting a brand name for an associated brand name coupon web page URL to be entered (3 pages of code, 11-13) and entering program-related date/time attributes instructing hyperlink deactivation at ad end times (5 pages of code, 14-18) and ~~WEBSITE 1~~ generating means generating the URL string (29 pages of code, 19-47) .

II. APPARATUS

The apparatus claimed herein, a program signal receiver apparatus, is tied to and dependant upon said data entering means and generating means. Indeed, said apparatus is dependant on said data entering and generating means to receive a program-related content hyperlink address ~~coupon web page URL~~ and ~~text identifying the~~ a program-related coupon hyperlink activation attribute for user-activated or automatic hyperlink activation during the playing of associated program material.

Referring to the Drawing, TELEVISION TUNER 22 may receive said URL string transmitted via TELEVISION DATA TRANSMISSION LINK 21. Said program signal receiving means may comprise any ~~video or audio~~ video program receiver means such as broadcast, cable or satellite television or radio tuner means, the WebTV TM Internet Terminal available from Microsoft Corporation

Redmond, WA or WebTV Networks Inc., Palo Alto, CA, set-top box means, Internet program signal receiver means or other program signal receiver means. In another embodiment, said program signal receiving means may comprise storage medium means such as ~~video or~~ audio or video recorder or player means.

Via DATA INPUT/OUTPUT 23, said URL string may be input to MICROPROCESSOR 24 (which may comprise any conventional data processor, microprocessor, central processing unit or equivalent data processing means). ROM 25 may store the program of instructions which controls MICROPROCESSOR 24. MICROPROCESSOR 24 may then route URL 6 via BUS 27 to be temporarily stored in RAM 28; and route [n:Brand Name Coupon] 9 via INTERFACE DEVICE 29 to be displayed as non-hypertext or, optionally, "hyperlink text" via LCD 30 or to LINK CONTROLLER 37 for automatic hyperlink activation responsive to [auto:true] (NOT SHOWN), and detect the URL expiration date/time from [e:yyyymmddThhmmss] 7, the type of Internet content URL 6 is associated with from [t:a] 8 (an advertising sponsor) and that the associated Internet content is ATVEF compliant from [v:1] 10. The term "hyperlink text" as used herein encompasses the meaning including hypertext conferred thereon in Boden, et al, Pat. No. 5,930,512, Nielsen, Pat. No. 6,199,071, Carroll, et al, Pat. No. 6,154,205 and Kato, Pat. No. 5,809,512, which are incorporated herein by reference.

In one preferred embodiment date/time attribute 7 may be detected and compared by comparing means with current date/time information from DATE/TIME CLOCK 26 first before one or more other attributes in said URL string is processed to ascertain first if said URL remains valid. DATE/TIME

CLOCK 26 and/or said comparing means may be remote from or built-into said apparatus such as disclosed in Danneels, Pat. No. 5,602,992 or Maturi, et al, Pat. No. 5,559,999, which are incorporated herein by reference.

Hyperlink to WEB PAGE 35 may be user-activated via PUSHBUTTON 31. Visual display means such as LCD 30 may be used to alert an user that user activation of said hyperlink is available to be made. LCD 30, for example, may visually display "[Brand Name] Coupon" as text or, optionally, hypertext from [n:Brand Name Coupon] 9 to inform viewers that an hyperlink to coupon WEB PAGE 35 is available. In the WebTV™ Internet Terminal embodiment Disclosed herein LCD 30 may comprise a drop down panel that displays said text. Date/time attribute 7, in addition to indicating when program-related URL 6 is no longer valid, may specify a stop display time as well so that said display coincides with the time when coupon WEB PAGE 35 is available to be accessed.

LED or equivalent visual display means rather than LCD 30 may be used as said visual display means. In addition, user activation means other than PUSHBUTTON 31 may be used such as keypad or VRU. Activating PUSHBUTTON 31, directly or via remote control, may send a control signal to MICROPROCESSOR 24, which, in turn, may instruct RAM 28 to output the stored URL 6 via BUS 32 to MEMORY OUTPUT 33.

Both LCD 30 and PUSHBUTTON 31 may be built into a conventional remote control unit, such as that disclosed in Yazolino, et al, Pat. No. 5,329,379, which is incorporated herein by reference, and communicably coupled to MICROPROCESSOR 24. INTERFACE DEVICE 29 may then connect to a conventional two-way infrared (IR) link coupled to said remote control unit to send and receive control signals. If said URL string includes [auto:true] (NOT

SHOWN) for WebTV™ Receiver to automatically load an interactive television link and, optionally, [time:yyyymmddThhmmss] (NOTSHOWN), an hyperlink start date/time attribute detected by WebTV™ Receiver, the hyperlink to WEB PAGE 35 may be automatically activated responsive to said respective hyperlink automatic load or hyperlink start time attribute.

Upon said user-activated or automatic activation an hyperlink to WEB PAGE 35 may be established via TELEVISION/CLIENT BROWSER (NOT SHOWN). Thereby, said program signal receiver apparatus may play program material including predetermined program material related to predetermined content 35 located at a predetermined hyperlink address and, during the playing of said predetermined program material, activate an hyperlink to said predetermined hyperlink address wherein hyperlink activation is user-activated or automatic and comprise:

receiving means 22 for receiving program signals representative of said program material and an hyperlink address string associated with said predetermined program material including:

an address attribute 6 specifying said predetermined hyperlink address and

at least one respective attribute for user-activating or automatic activating said hyperlink to said predetermined hyperlink address including:

an user-activating attribute 9 for visually displaying predetermined data to prompt said user-activating said hyperlink to said predetermined hyperlink address or

an automatic activating attribute (NOT SHOWN) for said

automatic activating said hyperlink to said predetermined

hyperlink address;

data processing means 24 operably coupled to said receiving means 22
for processing at least one of said attributes included in said hyperlink address
string;

memory means 28, visual display means 30 and user-activating means
31, each operably coupled to said data processing means 24 and collectively
configured for said user-activating said hyperlink to said predetermined
hyperlink address responsive to said user-activating attribute 9,

said memory means 28 for storing said predetermined hyperlink
address specified in said address attribute;

said visual display means 30 for visually displaying said
predetermined data for predetermined time and

said user-activating means 31 for activating hyperlink means 34
to hyperlink to said predetermined hyperlink address;

automatic activating means 37 operably coupled to said data processing
means 24 for automatically activating said hyperlink means 34 to hyperlink to
said predetermined hyperlink address responsive to said automatic activating
attribute (NOT SHOWN) and

said hyperlink means 34 for establishing said hyperlink to said
predetermined hyperlink address.

Once access to WEBPAGE 35 is achieved, COUPON 36 may then be
printed, optionally without user activation pursuant to, for example, an HTML
instruction included in said URL string, via WebTV™ PRINTER (NOT SHOWN)
at COMMUNICATIONS DEVICE 34. In another embodiment disclosed herein a

SMART CARD (NOT SHOWN) as disclosed in Britt, Jr., Pat. No. 6,141,678, White, et al, Pat. No. 4,119,114 and Nemirofsky, Pat. No. 5,907,350, which are incorporated herein by reference, may be coupled to COMMUNICATIONS DEVICE 34 to receive redeemable coupons.

LINK CONTROLLER 37 may serve as an hyperlink automatic hyperlink activator and de-activator deactivator. For example, LINK CONTROLLER 37 may automatically ~~de-activate~~ deactivate an advertisement-related hyperlink to an advertising brand name coupon WEB PAGE 35 when the advertisement ends, e.g. the date/time specified by URL date/time attribute 7. In said embodiment [e:yyyymmddThhmmss] 7 may reference an automatic hyperlink ~~de-activate~~ deactivate HTML instruction. In one embodiment herein said hyperlink may be ~~de-activated~~ deactivated via LINK CONTROLLER 37 as the WebTV TM client disclosed in Perlman, et al, Pat. No. 5,896,444, which is incorporated herein by reference, terminates communication with a server.

Clearly, numerous modifications and variations of the instant invention are possible in light of the above teachings. It is therefore understood that, within the scope and spirit of the claims made herein, the invention may be practiced otherwise than as specifically described herein and the invention may be modified in arrangement and detail without departing from such scope and spirit.